THE CLAIMS

What is claimed is:

1. A catalyst composition for treating a diesel engine exhaust stream containing a volatile organic fraction comprises a refractory carrier on which is disposed a coating of a catalytic material comprising a catalytically effective amount of ceria having a BET surface area of at least about 10 m^2/g and a catalytically effective amount of a zeolite.

2. The catalyst composition of claim 1 further including a catalytically effective amount of alumina having a BET surface area of at least about 10 m^2/g.

3. The catalyst composition of claim 1 wherein the zeolite comprises a three-dimensional zeolite characterized by pore openings whose smallest cross-sectional dimension is at least about five Angstroms and having a silicon to aluminum atomic ratio of greater than 5.

4. The catalyst composition of claim 1 wherein the zeolite comprises Beta zeolite.

5. The catalyst composition of claim 1 wherein the zeolite is selected from the group consisting of Y-zeolite, pentasil, Mordenite, and mixtures thereof.

6. The catalyst composition of claim 3, claim 4 or claim 5 further including a catalytically effective amount of alumina having a BET surface area of at least about 10 m^2/g.

7. The catalyst composition of claim 2, claim 3 or claim 4 wherein the zeolite comprises from about 10 to 90 percent by weight, the alumina comprises from about 60 to 5 percent by weight, and the ceria comprises from about 60 to 5 percent by weight, of the combined weight of the zeolite, the alumina and the ceria.

8. The catalyst composition of claim 2, claim 3 or claim 4 wherein the zeolite comprises from about 20 to 70 percent by weight, the alumina comprises from about 50 to 20 percent by weight, and the ceria comprises from about 50 to 20 percent by weight, of the combined weight of the zeolite, the alumina and the ceria.

9. The catalyst composition of claim 1, claim 2, claim 3 or claim 4 wherein the zeolite is doped with a catalytic moiety selected from the group consisting of one or more of hydrogen, platinum, rhodium, palladium, ruthenium, osmium, iridium, copper, iron, nickel, chromium and vanadium.

10. The catalyst composition of claim 9 wherein the zeolite is doped with the catalytic moiety by ion-exchanging the zeolite with cationic catalytic moiety.

11. The catalyst composition of claim 9 wherein the catalytic moiety comprises one or both of platinum and iron.

12. The catalyst composition of claim 11 wherein the refractory carrier has a plurality of parallel exhaust flow passages extending therethrough and defined by passage walls on which the catalytic material is coated, and the catalytic moiety comprises platinum and is present in a quantity sufficient to provide from about 5 to 60 g/ft^3 of platinum.

13. The catalyst composition of claim 9 wherein the refractory carrier has a plurality of parallel exhaust flow passages extending therethrough and defined by passage walls on which the catalytic material is coated, and the catalytic moiety comprises from about 2 to 60 g/ft^3 platinum and from about 5 to 50 g/ft^3 iron.

14. The catalyst composition of claim 2, claim 3 or claim 4 wherein the zeolite is disposed in a discrete layer which is overlain by one or more discrete layers containing the alumina and the ceria.

15. The catalyst composition of claim 1, claim 2, claim 3 or claim 4 wherein the refractory carrier has a plurality of parallel exhaust flow passages extending therethrough and defined by passage walls on which the catalytic material is coated, and the ceria and alumina each has a BET surface area of from about 25 m^2/g to 200 m^2/g.

16. The catalyst composition of claim 1, claim 2, claim 3 or claim 4 wherein the refractory carrier has a plurality of parallel exhaust flow passages extending therethrough and defined by passage walls on which the catalytic material is coated, and further comprising dispersed platinum carried on the catalytic material in an amount of from about 0.1 to about 60 g/ft^3.

17. The catalyst composition of claim 16 wherein the dispersed platinum is present in the amount of from about 0.1 to 5 g/ft^3.

18. The catalyst composition of claim 15 wherein the refractory carrier has a plurality of parallel exhaust flow passages extending therethrough and defined by passage walls on which the catalytic material is coated, and at least a catalytically effective amount of the dispersed platinum is carried on the ceria.

19. The catalyst composition of claim 1, claim 2, claim 3 or claim 4 wherein the refractory carrier has a plurality of parallel exhaust flow passages extending therethrough and defined by passage walls on which the catalytic material is coated, and further comprising dispersed palladium carried on the catalytic material in a quantity of from about 0.1 to 200 g/ft^3.

20. The catalyst composition of claim 19 wherein the dispersed palladium is present in an amount of from about 20 to 120 g/ft^3.

21. A method for treating a diesel engine exhaust stream containing a volatile organic fraction comprises contacting the stream with a catalyst composition under oxidizing conditions including a temperature high enough to catalyze oxidation of at least some of the volatile organic fraction, the catalyst composition comprising a catalytically effective amount of ceria having a BET surface area of at least about 10 m^2/g and a catalytically effective amount of a zeolite.

22. The method of claim 21 wherein the catalyst composition further comprises a catalytically effective amount of alumina having a BET surface area of at least about 10 m^2/g.

23. The method of claim 21 wherein the zeolite comprises a three-dimensional zeolite characterized by pore openings whose smallest cross-sectional dimension is at least about 5 Angstroms and having a silicon to aluminum atomic ratio of greater than 5.

24. The method of claim 21 wherein the zeolite comprises Beta zeolite.

25. The method of claim 21 wherein the zeolite is selected from the group consisting of Y-zeolite, pentasil, Mordenite and mixtures thereof.

26. The method of claim 23, claim 24 or claim 25 further including a catalytically effective amount of alumina having a BET surface area of at least about 10 m^2/g.

27. The method of claim 26 wherein the zeolite comprises from about 10 to 90 percent by weight, the alumina comprises from about 60 to 5 percent by weight, and the ceria comprises from about 60 to 5 percent by weight, of the combined weight of the zeolite, the alumina and the ceria.

28. The method of claim 21 or claim 22 wherein the zeolite is doped with a catalytic moiety selected from the group consisting of one or more of hydrogen, platinum, rhodium, palladium, ruthenium, osmium, iridium, copper, iron, nickel, chromium and vanadium.

29. The method of claim 28 wherein the zeolite is doped with the catalytic moiety by ion-exchanging the zeolite with a cationic catalytic moiety.

30. The method of claim 28 wherein the catalytic moiety comprises one or both of platinum and iron.

31. The method of claim 21 or claim 22 wherein the refractory carrier has a plurality of parallel exhaust flow passages extending therethrough and defined by passage walls on which the catalytic material is coated, and the catalytic moiety comprises platinum and is present in a quantity sufficient to provide about 5 to 60 g/ft^3 of platinum.

32. The method of claim 22 wherein the zeolite is disposed in a discrete layer which is overlain by one or more discrete layers containing the alumina and the ceria.

33. The method of claim 22 wherein the ceria and the alumina each has a BET surface area of from about 25 m^2/g to 200 m^2/g.

34. The method of claim 21 or claim 22 wherein the refractory carrier has a plurality of parallel exhaust stream flow passages extending therethrough and defined by passage walls on which the catalytic material is coated, and the catalyst material further comprises dispersed platinum carried thereon in an amount of from about 0.1 to 60 g/ft^3.

35. The method of claim 34 wherein the dispersed platinum is present in the amount of from about 0.1 to 5 g/ft^3.

36. The method of claim 34 wherein at least a catalytically effective amount of the dispersed platinum is carried on the ceria.

37. The method of claim 21 or claim 22 wherein the temperature of the exhaust stream initially contacted with the catalyst composition is from about 100°C to 800°C.

38. The method of claim 21 or claim 22 wherein the refractory carrier has a plurality of parallel exhaust stream flow passages extending therethrough and defined by passage walls on which the catalytic material is coated, and the catalytic material further comprises dispersed palladium carried thereon in the amount of from about 0.1 to 200 g/ft^3.